

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE;

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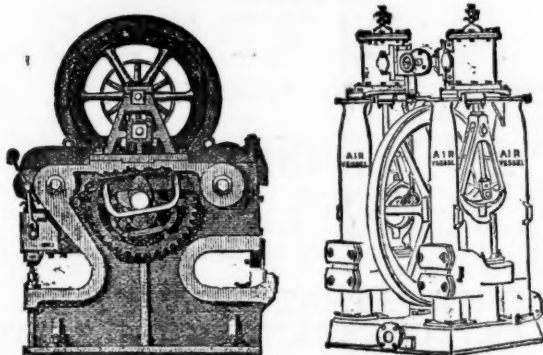
[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2271.—Vol. XLIX.

LONDON, SATURDAY, MARCH 1, 1879.

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PARIS,
BRONZE MEDAL, 1867.



ORDER OF THE CROWN OF PRUSSIA.



FALMOUTH,
SILVER MEDAL, 1867

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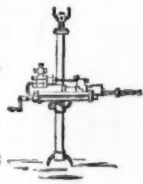
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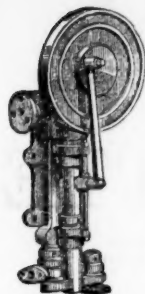
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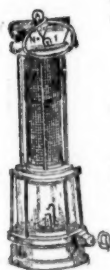
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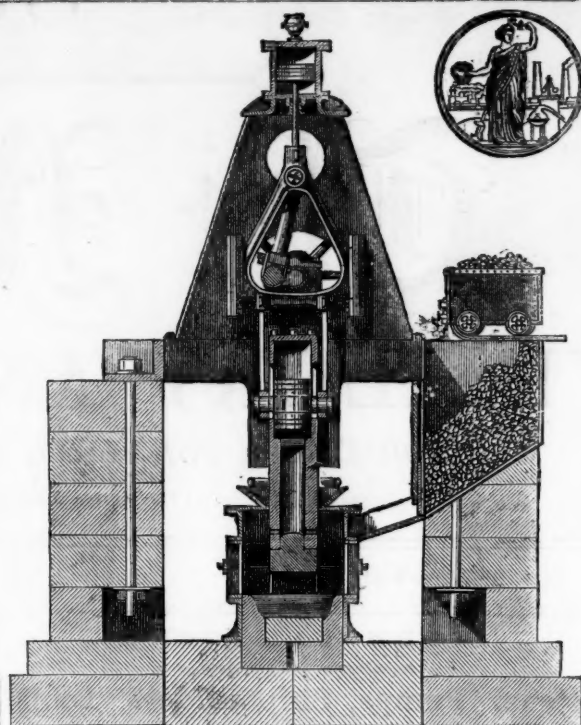
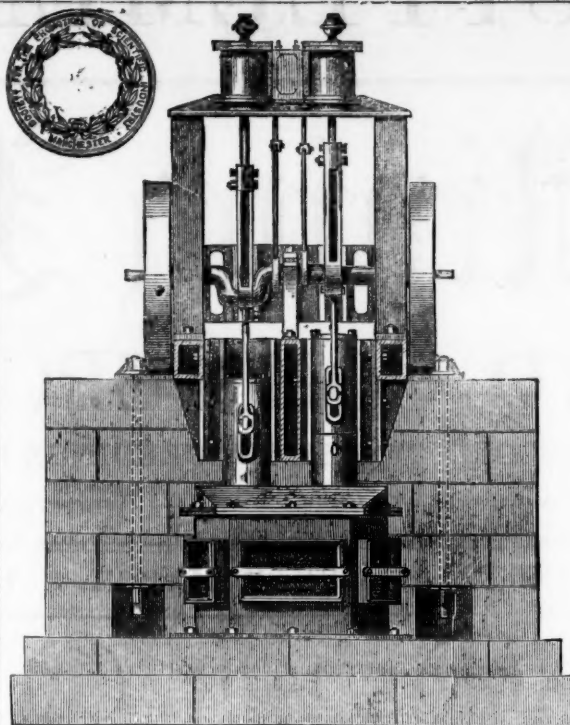
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Original Correspondence.

THE RIO TINTO COMPANY—THE HUELVA DISTRICT.

BRITISH TRADE WITH SPAIN.

SIR,—It may be interesting to some of your readers to hear that, in spite of the stagnation of our trade with Spain, English capital and enterprise have recently developed in the province of Huelva an industry that greatly benefits our iron manufacturers at home. A short time since I received an invitation from the German Consul in this town asking me to spend a few days with him in Huelva, and go on to Rio Tinto to see the copper mines in that district. The railroad from Seville to Huelva is not yet finished; it is completed only so far as Niebla. The journey had to be performed for the first six hours in a carriage drawn by three mules, and on a road which hardly merits the name, as in some places the wheels sank to the axles in the deep mud and clay. The track runs beside the railway for a considerable distance, and the extreme richness of the soil on both sides of the road, which are thickly planted with vines, orange trees, olive groves, cork woods, and corn, augurs favourably for the commercial success of the new line. The steel rails which are now being laid down have been purchased from a firm in Sheffield. Numerous bridges which the trains will traverse terminate in a magnificent iron structure over the Guadalquivir at Seville, and have been manufactured by an English firm. There are some lead and silver mines near the town of La Palma, on the road to Huelva; they also will probably give a considerable amount of traffic to the new railroad. On reaching Niebla our vehicle was replaced by a commodious saloon carriage. I soon found myself being rapidly taken on to Huelva, now passing by a fine old Roman bridge, constructed nearly 2000 years ago, but still in a good state of preservation; then catching a glimpse of the monastery where Christopher Columbus and his followers received absolution previous to their departure in search of a new route to India. The ground on both sides of the rail is thickly planted with eucalyptus trees; they will give to future travellers shade in the summer months, and to the Messrs. Rothschild, who have purchased the line, an endless supply of sleepers for their rails. A narrow-gauge railway running from Huelva to Rio Tinto lies parallel to the new line between Niebla and Huelva. Large warehouses, filled with copper and pyrites, have been built beside the station of the last-named town.

In connection with the Rio Tinto Railway is a newly-constructed pier; it is one of the largest in the world; this will probably make Huelva before long a most formidable rival to every other port in Spain. If once Seville and Madrid are connected by railroad with Huelva the merchandise which now goes to Cadiz from France and Great Britain will inevitably seek Huelva, which possesses a nearer and a better harbour. The climate also of the town, offering as it does a most delightful place of resort for invalids in the winter, being many degrees warmer than either Nice or Pau, will be certain to attract numerous visitors so soon as the railway is completed. The journey in diligence from Seville hither entails a considerable amount of inconvenience to travellers; it has hitherto hindered delicate people from taking advantage of the warm and genial weather in this province.

In Huelva the roses are in full blossom, and you can sit in the open air without a great coat in the evening. The day before yesterday I went to Rio Tinto to see the copper mine—a five hours' journey from Huelva. Long before reaching my destination I became aware that we were approaching the works, owing to a peculiar smell of sulphur in the atmosphere; the odour became stronger and stronger. Presently the trees beside the rail, instead of being covered with foliage like those we had left behind us, were as black as ebony, divested of all leaves, and had evidently been killed by the sulphuric acid in the air. The grass, too, had disappeared beneath the withering effect of this strong poison. Very shortly a thick, heavy cloud of dense smoke, extending apparently for miles, announced that we had reached the mines. Here hundreds of kilns, made of the pyrites extracted from the mountain side, were in a state of combustion. The pyrites themselves, which contain about 3 per cent. of copper, 50 of iron, and 47 of sulphur, burn for nearly a year without the necessity of any additional fuel once they have been ignited. The sulphur is wasted by this process; its vapours destroy the vegetation for miles around; the iron and copper remain. The residuum is placed in tanks filled with water; the water washes out the copper, and is then let into other tanks, which are filled with pig-iron brought from England. The copper is at once attracted to the iron, and is precipitated on the other metal, after which it is collected, sent to Huelva, and thence to England.

I was accompanied by a German gentleman, a director of the Rio Tinto Company; he informed me that the consumption of pig-iron is more than 12,000 tons a year. The Tharsis Mines in the neighbourhood consume about 10,000; they thus form an industry affecting British commerce to the amount of 22,000 tons a year. "I do not think that this source of wealth will remain long in the possession of Great Britain," presently remarked my companion, in answer to some questions on the subject. "The duty on British iron is very heavy; we have to pay 1*l.* sterling a ton, and this, with the prime cost, transport, &c., makes pig-iron cost us 4*l.* sterling at the mines. Now, we have any amount of iron here doing nothing. Look at all that debris," he continued, pointing to the mountain side, which was covered with some reddish-looking rocks, "there are millions of tons of iron at hand, and we are not using it." "But you have no coal or limestone," I remarked. "Not close at hand," he observed; "but Rothschild has recently opened a mine of coal at Réunion, and he supplies the Alicante line with fuel. When the Seville and Huelva rail is finished we shall be able to bring coal at a very low rate to Rio Tinto, and at Niebla there is a large supply of limestone. We are already negotiating with some iron manufacturers in Great Britain to induce them to set up some blast-furnaces here. Wages are lower with us than in England. Our miners get about 2*s.* a day; the English navy receives 3*s.* 6*d.*" "But the navy does more work than the Spaniard," I remarked. "Yes," was the reply, "but not so much as would make up the difference in the wages." "Do you ever have any strikes?" I asked. "No, not in this district. Sometimes a miner after he has made a little money will leave off work for a few months in order to spend his earnings in idleness, but after the *pesetas* are gone he is glad enough to return to our mines if we will let him. When we first came here a few years ago there were 2500 men in our employ; there are now over 6000. At the time of the Commune in Paris some of the members of the International Society came to Rio Tinto and tried to make our men discontented." "What did you do to counteract the influence of those agents?" I enquired. "We had not much difficulty," replied the German; "the Internationalists were mostly Frenchmen and Italians. I ordered our manager to give them the best houses in the town, and to pay them higher wages than the Spanish miners. If I had treated the foreigners harshly I should have made them appear martyrs in the eyes of our own people; as it was, the Communists were much better off than the Spanish workmen. The latter became very jealous of the new arrivals, and made things so unpleasant for them that they very shortly left the neighbourhood." "What is your monthly expenditure?" I asked. "About 16,000*l.* in stores and wages, and the railway, workshops, and pier cost us about 600*l.* more. We extract 16,000 tons of mineral per week; we export 4000 to England in the rough state, and the copper is taken out there. The remaining 12,000 tons are treated as you have seen. It is a very wasteful process," he added, "as the sulphur is all consumed, but if we were to manufacture our own iron, which we might easily do, the cost could be considerably reduced. Your English workmen will have to look out for themselves before long, for when your manufactures are shut out of the world's markets by strong protective duties the manufacturers, to save themselves, will start fresh plants abroad. Here, for instance, wages are low and minerals abound. Any English iron manufacturers settling at Rio Tinto would at once get the advantage of the protective duty imposed upon that mineral; other trades in the same way. To fight with success the system of protection now employed on the Continent your English capitalists will have to start some manufacturing abroad." "But the English workpeople—What will they do?" I asked. "Skilled men will always be in demand," was the reply; "the others will have to labour at the same rate as

foreigners, or otherwise starve. There is still plenty of work to be done in these mines," he added. "We know that we have more than 20,000,000 tons of pyrites in one lode; we have opened it for 1000 yards; it is, on an average, 100 yards in width and the same depth; this lode extends 2000 yards further. The distances have been verified by our borings. We have several other veins as yet unworked; they are as large as, and larger than, the first which I mentioned. We should have done very well this year if it had not been for the fall in the value of copper. This mineral is now only 55*l.* a ton, whereas it had previously averaged 75*l.*" "But there are some rival mines in Chili," I observed; "they may prevent copper ever reaching its former price." "They cannot do so," said the German. "With our present rude process of manufacture we can produce copper at about 20*l.* per ton less than its present value in the market. The Chili mines can hardly be worked with such cheap prices. The Huelva district sends to England alone above 30,000 tons of pure copper; this fact is not generally known in the British markets, as the metal goes to England in the form of ore and precipitate, and not in ingots, as from other countries." FRED. BURNABY.

Huelva, Spain, Feb. 11.

DEPRECIATION OF SILVER.

SIR,—Under the above heading you have kindly inserted some communications in your valuable Journal, and, as the subject in the last two years has possessed more than usual interest, I hope it is not presuming too much to again ask for a small space in your columns. As you and all others interested in this question will recollect it was 1876 that silver suddenly fell to 46*d.* per oz., caused by the extraordinary yield of the great bonanza mines in Nevada, when a cry was raised that the old white standard metal was about to lose its value as a medium of commerce altogether; and the learned ones called "eminent financiers" took the lead in the panic. Having spent many years on the Pacific Coast, and seen many grand deposits of mineral, I never shared that fear, and when the California and Virginia Consolidated Mines were pouring out their wealth at the rate of 1200 tons and upwards per day, the public was told in your Journal to fear not, giving my reasons and a rough plan with which to support the said views. In the summer of 1877 the yield of one day was given at 1453 tons. No one can deny but that it was an extraordinary result; but such an outturn only causes old miners to shake their heads, and ask how long such mines will last at that rate, or what must be the extent of the hole made daily? Let us take 11 tons per fathom (a reasonable estimate), which will be about 132 cubic fathoms per day; then per month, at 26 working days, would give 3432 fathoms monthly (but to go ahead a little faster, our Cousins work Sundays also). So when we know that the combined length of the two sets on the line of lode is only about 1300 ft. it needs no Solomon to tell us that such mines will be short lived. We have had our East Wheel Rose and other similar fair ground Cornish mines, and know to our disadvantage and sorrow that they pass away too quick. I may remark that the extraordinary deposits at the mines in question were first struck at the 1200 ft. and 1300 ft. levels, maintaining their great riches down to the 1600 ft. and 1700 ft. workings, where the changes, well known in the adjoining and formerly very rich mines unmistakably met with—vide reports in Virginia Enterprise, 1800 ft. and 2000 ft. workings hard blasting ground, low grade ore, &c., quartz streaked with low grade ore, &c., and, in addition to the said discouraging features, we have frequent notices of deep workings flooded. "Temperature almost insupportable": 250 men suddenly discharged, all of which tells us too surely that these mines, like many others adjoining, have seen their best days, which the following San Francisco Share-list fully confirms.

AMERICAN MINING STOCK.

VARIATION OF PRICES FROM OCTOBER, 1876, TO DECEMBER, 1878.

Date.	California.	Virginia Consolidated.	Ophir.	Merican.	Gold and Curry.	Savage.	Quinn.	Hotchkiss.	Hale and Norcross.	Yellow Jacket.	Overman.	Best Belcher.	Bullion.	Crown Point.	Sierra Nevada.
1876-Oct. ...	68 1/2	51 1/2	53	28 1/2	15	14	78	8 1/2	24 1/2	82	45 1/2	33 1/2	12 1/2	4 1/2	4 1/2
1877-Dec. 16 ...	29 1/2	21 1/2	50	14 1/2	9 1/2	12 1/2	41 1/2	10 1/2	11 1/2	24	20 1/2	6 1/2	7 1/2	4 1/2	4 1/2
1878-Aug. 8 ...	9 1/2	8 1/2	41 1/2	13 1/2	7 1/2	10 1/2	29 1/2	7 1/2	10 1/2	12	15	5 1/2	7 1/2	3 1/2	3 1/2
Sep. 14 ...	11 1/2	12 1/2	51 1/2	60	20	20	47	16 1/2	24 1/2	19	31	14	14	19 1/2	19 1/2
Oct. 6 ...	14 1/2	14 1/2	64 1/2	68 1/2	18	18 1/2	60	22 1/2	28 1/2	21 1/2	28 1/2	15 1/2	8 1/2	20 1/2	20 1/2
Oct. 12 ...	13 1/2	14 1/2	61 1/2	70	20 1/2	24 1/2	62 1/2	24 1/2	28 1/2	27 1/2	15 1/2	9 1/2	9 1/2	20 1/2	20 1/2
Oct. 19 ...	12 1/2	13 1/2	52	64	17 1/2	21 1/2	61 1/2	24 1/2	27 1/2	24 1/2	24 1/2	12 1/2	10 1/2	19 1/2	19 1/2
Oct. 26 ...	11 1/2	11 1/2	51 1/2	60	17 1/2	24 1/2	61 1/2	24 1/2	23 1/2	26 1/2	24 1/2	12 1/2	11 1/2	23 1/2	23 1/2
Nov. 2 ...	11 1/2	11 1/2	51 1/2	68	17 1/2	22 1/2	60 1/2	23 1/2	23 1/2	26 1/2	24 1/2	14 1/2	10 1/2	19 1/2	19 1/2
Nov. 16 ...	9 1/2	9 1/2	56 1/2	73 1/2	17 1/2	17 1/2	54	18 1/2	22 1/2	23 1/2	22 1/2	12 1/2	8 1/2	10 1/2	10 1/2
Nov. 30 ...	9 1/2	7 1/2	39 1/2	29 1/2	8	10 1/2	36	12 1/2	14 1/2	12 1/2	17	6 1/2	5	4 1/2	4 1/2
Dec. 7 ...	9 1/2	7 1/2	34 1/2	22 1/2	7 1/2	9 1/2	35 1/2	10 1/2	12	9 1/2	17 1/2	4 1/2	4 1/2	39 1/2	39 1/2
	* 51 1/2%			† 264%			† 582%				\$ 222%				

N.B.—It will be seen that on—
Oct. 6, 1876, 1 share in each of the above mines was valued at \$512 1/2
Dec. 15, 1877, ditto ditto 264 1/2
Oct. 26, 1878, ditto ditto *528 1/2
Dec. 7, 1878, ditto ditto 222 1/2
Instead of experiencing the direful effects predicted by the great learned Commissioners what do we find at the end of 1878? Let us hear what Messrs. Pixley and Abell say in their valuable yearly review. Silver prices have varied from 49*d.* to 55 1/2*d.* per oz. demand for fast slack, but demands for the Continent absorbed nearly all arrivals. Imports in 1878, 10,225,000*l.* less than last year; New York produce fallen off, or less than 1877 \$17,000,000*l.*, whilst below see imports and exports of silver:—
1874 £11,797,944 £12,385,438
1875 8,606,755 8,650,122
1876 13,278,380 13,596,970
1877 21,625,652 18,887,337
1878 11,400,000 11,800,000
Total £37,608,733 £35,319,867
Leaving only the small balance of 2,288,864*l.* on five years' transactions. Surely, Mr. Editor, there are no signs of a glutted market for silver in the above figures, and if the great Commissioners cannot see anything but alarm on this topic my advice to them is to remain at home instead of disturbing the ordinary commerce of the world with their erroneous conclusions on a subject which they evidently understand but little about, or before concluding their reports they might gain useful information by applying to Messrs. Pixley and Abell. A respectable authority on this subject says—"From the earliest historical times to the present silver has been *par excellence* the metal of the Mint, and in pieces of determined value it now circulates under a thousand familiar names wherever commerce is known." And, again, the same author says—"As a substance of universal distribution in Nature, requiring long, laborious, and ingenious processes to extract it from its layers in the solid rock, and bring into a form adapted for circulation, silver must always retain a worth among men that will bear a steady relation to the necessities of life." Again, already in the first book of the Holy Writ, we find where the Patriarch wanted to buy anything valuable silver would do the work; for instance, Abraham, when he wanted a sacred spot to bury one dear to him, he got it for silver, and yet after all those generations our wisest meet in a comfortable room probably to gormandise for awhile, and then could not see any value in the metal, which cost the lives of so many poor fellows to extract from the Nevada hills. Our mothers and wives know better, as if there is silver coin at hand they have no difficulty in getting the basket filled with the "common necessities of life."

It must not be supposed, Mr. Editor, that I am attempting to show that the Western States are worked out; on the contrary, I look on that section of the Federation, California and Nevada with the adjoining States, to be the most important and richest mining field in the world, and that it will give employment to multitudes for generations to come, and prove a profitable field for capital, provided a careful selection of ground and agents is made; but the

* The great rise on this date was caused by the unjustifiable rise (swindle) in the Sierra Nevada, otherwise there has been a gradual decline since the first-named date, 1876, in the Comstock Range of mine properties, and it is well known that that locality is now in need of a substantial discovery, just as much as any Cornish district.

recklessness and inefficiency seen in many English undertakings in that region have been great grief to all honest miners.

The aim of the foregoing remarks has been to assure my fellow readers that the immense yield of the California and Virginia Consolidated was not going to flood the world. The shortness of the sets, the easy character of the ground, the great expense and difficulties in reaching deeper levels, leaving out the already deteriorated character of the lode, afford abundant material for any ordinary miner to calculate the lifetime of such concerns—so with the great demand which Americans wisely put for their own use. The demands from China and Japan, besides European wants, we may safely conclude the outlook for silver has not been better for years, and it may not be amiss, Sir, for you to advise the home capitalist to look out for good silver-lead mines. I scarcely need tell you that most of the old home sources are completely dried up.

Feb. 18.

LISKEARDITE.

THE NEW CARBONATE DISCOVERIES IN COLORADO.

SIR,—Leadville is what the miners call "Booming"—that is to say, the desolate place a few months ago has now a population of 8000, and will within the next few months be 20,000, the increase being about 2000 a month. The mines or deposits consist of a contact vein much resembling a coal vein, and varying in thickness from 1 to 20 ft., lying between a porphyry and a limestone formation. In many places it is shoveled out like so much sand, and can be mined for 4*s.* a ton. Everyone is in a state of excitement, and fabulous prices are being paid for the mines even before they have struck ore, and simply for the chance of finding it on a certain claim. The average ore is 80 ozs. in silver, and 40 to 70 per cent. in lead, and is most easily treated, and with little expense. I have seen several of the claims which had 25 feet of solid ore, and is covered over many acres, and indeed it is difficult to say how extensive it is, for it is such an unlooked for deposit, not showing the least sign on the surface, and the ore being found at about 100 feet deep.

Many shafts are being sunk with remarkable success; in fact, it has been almost a certainty to strike ore. The ore is not sacked, and is carried in wagons from the mines, being shovelled in like so much dirt, which it resembles. There are already several smelters in operation, and within the next few months there will, no doubt, be at least 20 at work. The railroad is being pushed on with energy, and will reach the deposit in August. This part was once thickly settled some years ago, being the great California gulch which produced so much alluvial gold; but the miners, in their excitement to find the precious metal, overlooked the silver which lay under their feet—in fact, there is not one man in a thousand who would ever dream of assaying it as a general thing.

Englishmen seldom hear of the best mines in the United States, but this being one of the best and most extensive mineral properties I have yet seen I make mention of it, as I am not much of a believer in what property ought to do or may do, &c., but when you find a lively town, with all at work, plenty of money, vast quantities of ore and metal on the road, and individual operating, with no bubble companies, you may depend that this is no paper report, and as a general thing they are not over anxious for capital, as, if the mines are good enough, my experience has shown me that will come anywhere fast enough.—Walbrook, Feb. 27. JOHN M. STUART.

COLORADO UNITED MINING COMPANY.

SIR,—I quite agree with the remarks made by "Canny Scot" in last week's Journal. Why do we poor shareholders get no information whatever? Some years ago, in 1875, we used to have a detailed monthly report, we now never hear a word. It cannot do any harm to the company to let everyone know the worst, and it would be some consolation, though a poor one, to an—
London, Feb. 22. UNFORTUNATE SHAREHOLDER.

MINING IN NORTHERN MEXICO—No. II.

Until the time of the expulsion of the Spaniards from Mexico (soon after the declaration of Independence) mining was carried on very profitably both by Spaniards and Jesuits. All the way from the borders of the States of Durango and Sinaloa there are abundant evidences of mining, and successful mining too, under the Jesuits. Many temples remain as evidences of the abundance of the precious metals, although now in decay. Perhaps during the whole time of the Spanish occupation since the conquest no one mine has earned such a fame as the gold mine of Topago. In the district the mine earned the name of "Millonaria," from its immense richness. The mine was discovered in the year 1750, and worked by a Spaniard named Don José Barrio y Clavijo. From the archives of the Judicial Court in the mining district of Batopilas, I find that such was the abundance of gold taken out of this mine that in the year 1754 20,000 ozs. were sent to Villa de San Felipe (now the city of Chihuahua) for various expenses in the mine. The capital of the State was then Durango, and the old Spanish road to the city of Mexico was by Durango. Clavijo at this time resided in the city of Mexico. How much, then, would be sent to the owner and how much to the capital of the province Durango.

Such was the fame of this mine that Charles III. of Spain sent an express messenger with the sole object of examining the mine personally. In January, 1760, the mine suddenly ran together, and in such a way that no one could then be got to open it. Seven months before this an examination was made by order of the "Virey," and the examiner reported the mine in a very threatening state. His report, which I have read, bears date May 22, and concludes June 16 in the year 1759. Up to this date the mine was exceedingly rich, and in the report I note that one blast in the bottom of the mine yielded 20 arrobas (5000 lbs.) of metal *pepena* (rich quality ore). Notwithstanding the falling in of the mine the people sustained themselves for 58 years, until the year 1818, cleaning the refuse or "barrows" of the mine.

At present the mine is in the hands of a Mexican, Don Martin Salido, who has spent some time in opening a shaft to reach the bottom of the workings, which are not supposed to be over 25 fms. from surface. With a 30-horse power pump the mine could be worked to a depth of over 100 fms., and with a 10-stamp mill there is every reason to believe that the business is a good one. It would be well for English capitalists to turn their attention rather to Northern Mexico than to the United States. Here is a great and rich mineral country awaiting development. There is no capital in this region, and less enterprise and knowledge of mining on a large scale.

What is wanted is not capitals of 60,000*l.*, but rather capitals of 5000*l.* to 10,000*l.*, with the manager here interested in the successful carrying out of the business. I know of several veins with an abundance of ore of easy extraction which would pay handsomely with a capital of 8000*l.* or even 5000*l.* The capital could be doubled the first year. Labour is cheap, wood for mining purposes and fuel is abundant, and water may be had for reduction purposes in many of the "arroyos" and canyons. I was told by a gentleman last month that foreign companies had made great failures in Mexico from a want of proper officers; those who are accustomed to the country are the best to treat the people and understand the duties of the local authorities, and above all, he said, "Do not let your countrymen bring machinery before they know they have a mine. It has been the failure especially of American companies to put up a splendid stamp mill with all the contrivances and then look for a mine." Let the young gentlemen of means who are studying mining in our School of Mines but come to Mexico, and I am sure that with the capital I have named, 5000*l.* to 10,000*l.*, they will find many—very many—mines that will well repay the trouble and isolation in a foreign country. MINERO.

Alamos, Sonora, Feb. 10.

ERIE RAILWAY PREFERENCE SHARES.

SIR,—The Reconstruction Trustees of the company have not laboured in vain, as is evidenced by the market values of the bonds. Sir Edward Watkin is a man of strong individuality, and not easily balked in any project he may undertake. The rise in value of the Erie Railway has been a feature in the Stock Exchange for the last twelve months. The Americans have been buying many hundreds

of thousands of pounds of the bonds and shares. I have travelled over the line, and it has struck me that this undertaking, if properly managed, would take a leading position in American railroad enterprise. Probably no railway in the United States shows a better geographical position, connecting as it does New York with Buffalo, on Lake Erie. The prices of the various bonds show what a man like Sir Edward Watkin can do for a formerly badly managed concern. The Erie Reconstruction Trustee Certificates sterling, 107½ to 108½; the Funded sterling, 115 to 116; the Reconstruction Certificates sterling, 83 to 89; and the Currency, 86 to 87. The price of the Six per Cent. Preference shares, which receive the net revenues after the bonds are paid, are 48½ to 49½. The preference shares must rise in value, and therefore a purchase of them will result in a profit. People with money should note this.

London, Feb. 26.

SURFACE CONDENSERS.

SIR.—In my communication of last week on this subject, which you kindly published in the Journal, I concluded by intimating that the adoption of this apparatus in conjunction with other numerous improvements into the Cornish mines would tend greatly to enhance their value, and I will now, with your permission, endeavour in the first place to point out how this apparatus can be applied to the Cornish engines in a very simple and inexpensive manner, without in any way altering the present arrangements, excepting those of the condenser and feed pump, and then, if time will admit, I will devote a few lines to the numerous improvements above intimated.

The necessary cooling surface per inch area of piston and proportion of air-pump to main cylinder may be obtained from the following leading dimensions of a marine compound surface condensing engine, which has been very successfully employed in several large steamers, and exhibited at the Paris Exhibition last year:—

Diameter of small cylinder	36 22 inches.
Diameter of large cylinder.....	58 05 "
Length of stroke in both cylinders ..	23 60 "
Diameter of double-acting air-pump..	12 66 "
Length of stroke of air-pump	23 60 "
Area of condensing surface	1722 25 sq. feet.
Pressure of steam in boiler	60 lbs. p. inch.
Consumption of coals 2 lbs. per horse-power per hour.	

Taking the large cylinder as a basis of calculation, it gives 0.657 ft. surface of condenser for each inch area of piston for a double-acting engine, and 0.328 for a single-acting engine, and the proportionate volume of air-pump to volume of steam employed being 0.4726.

It will be remembered that in Mr. Schönherr's paper on this subject it was described as a tight vessel traversed by a series of tubes. In Cornwall at the present time second-hand boilers are very abundant and cheap, and a portion of the shell of a 6 or 7 ft. boiler so traversed with tubes, say about 10 ft. long, would furnish the necessary condensing surface for a large engine, which could be laid down by the side of the present condensing cistern in readiness, so that in making the change it would only stop the engine the time necessary to remove the old condenser and connect the air-pump, feed-pump, and exhaust pipe to it. The only precautions necessary are to place the feed-pump low enough for the water to run into it promptly, because no suction can be obtained evidently, and to keep the cock and stuffing-box covered with water. The outlet valve or valves and stuffing-box of the air-pump should also be covered with water for the same reason.

The feed pipe should be connected near the bottom of the condenser, a glass tube should be attached to indicate the height or quantity of water therein, and care should be taken in working not to draw off the water so low as the mouth of the feed-pipe, as all the greasy matter exhausted with the steam would float on the surface of the water, and would, of course, be passed to the boiler in case the water was drawn off below the top of the orifice of the feed-pipe, which is considered by eminent chemists not to be altogether free from danger.

The injection pipe for the introduction of pure water to compensate for waste steam can be connected to any convenient place, and should be provided with a cock covered with water, for the same reason as the cock of the air-pump, &c. The feed-pump and air-pump connections to main beam would be the same as now exist. This, with bringing the water to the tubes and regulating the outlet so as to keep them full, but yet flowing sufficiently fast to keep it cold, includes the whole arrangement. The vacuum obtained is quite as good as that obtained by the old condenser, and with much less cost of power on the air-pump. It will be advisable when convenient to immerse the whole apparatus in water, which would prevent it ailing if the joints should not be perfectly air-tight, as it often happens that joints are water-tight but not air-tight, and the cooling surface would thereby be considerably increased, so that a smaller apparatus would suffice than would be necessary where circumstances would not admit of its immersion. Hoping that this rough description will convey a notion of how the apparatus can be made and applied, I will now pass on to a question of not less importance—the introduction of the boring machine into Cornwall, and the anomalies which seem to impede its progress.

It is with great pleasure I observe the great progress it is making, and the great advantages which are being derived in some mines by its use—advantages which through the short time of its introduction have not been fully realised, and consequently not fully appreciated. Take, for example, Dolcoath, where the lode is worth 50¢ per fm. By hand labour only 1½ fm. could be driven in one end per month, whereas the boring machine is driving three and a half times that quantity. The height of lode undercut and made ready for stopping per fathom of drive is about 14 fms., and the value of the ground laid open in this end in a month by hand would be 1½ by 14 by 50 equal to 1050¢, whilst with the boring machine it would be 5½ by 14 by 50, equal to 3675¢. I think from this we may conclude that the produce of any hard ground mine may be increased three and a half times by the use of the boring machine, providing there is sufficient hoisting power to bring it to surface, and means of dressing it, which unfortunately there is not in many of the Cornish mines, the shafts being very old and crooked, so that it is only very lately we have seen the old kibble winding replaced by the more modern system called the skip at Dolcoath and Tincroft for this reason, which, although a great improvement, does not admit of realising the full benefit of the boring machine in these mines, but no doubt Dolcoath will double its returns as soon as a fair price can be had for tin again, and Tincroft would have been in a similar favourable position if it had adopted the boring machine at the same time, and laid open ground in a similar manner, but I regret to say that a great impediment to its introduction in this mine has arisen in a peculiar manner, the obstacle being purely a financial one, after the mine has paid over 300,000¢ in dividends. At the last meeting the question of introducing the boring machine was discussed, and Lord Roberts very generously offered 1000¢ in aid of it, but the manager could not accept this offer until the company is brought into a better financial position. Now when we call to recollection how this difficulty was brought about by paying bubble dividends from borrowed money, I must say it is rather hard to believe, although the facts stand staring us boldly in the face. It, however, furnishes an example of how a mine may be so badly financed as to hamper the management so completely that it cannot even accept the proffered assistance of an amiable friend to help it out of its difficulties. Nor is this all the mischief it has done. If the register is referred to it will be seen that parties invested in the mine when these bubble dividends were being paid, thinking the investment, as it was an old dividend mine, and making profits at the exceptionally low price of tin, quite safe and respectable, but as soon as the state of affairs became known down went the price of shares to nearly nothing, and the new investors are called upon to pay back what the outgoing shareholders received in bubble dividends.

Another great evil arising out of this is the great suspicion which it creates respecting Cornish mines altogether in the minds of many respectable capitalists, which tends to alienate them from all Cornish enterprise, thereby causing an undue depreciation in the price of stock. I do not attribute this to any evil intention on the part of the management, but believe it solely arose from an exaggerated faith in the rise of tin, which instead of rising has continued to drop, and consequently brought about this state of affairs.

This, however, cannot be too strongly deprecated, seeing that it gives rise to such serious impediments to the proper development of the mine, and such great injustice to honest investors, to whom managers of public companies owe a duty which they are very much inclined to ignore—that of furnishing correct basis for estimating the value of the shares. This being the case, the parties thus deceived would hail the day when the French system of Government inspection of mine accounts is enforced in this country, as under the existing system anyone is liable to be trapped, and even ruined. The law of that country compels details of every item to be included in the accounts of public companies. Banking account, stock of ore and materials, and a deduction of 10 per cent. per annum of the value of machinery for its yearly depreciation. These items seem to be almost totally excluded from the accounts issued by the Cornish mines, and it is exceedingly difficult for anyone at a distance to know anything about them, excepting at such times as bank failures, such as the Cornish Bank, which when it does happen, throws out such a brilliant light on the subject, that it could not even be excelled by the wonderful electric light. It was by this luminary that we were enabled to see that even Dolcoath's stock of tin was not equal in value to its overdrawn account, and I must confess that although I believe Dolcoath to be a splendid property, capable of paying a dividend at the present low price of tin. That this wonderful, magnificent, come-by-chance luminary has given rise to a doubt in my mind as to whether the last few dividends in that mine were fairly earned. Would it not be wiser then instead of paying such high interest to bankers for overdrawn accounts to be receiving interest from a reserve fund, a fund which the majority of these mining properties have had ample opportunity of making, when tin was high. How different would have been the position of Tincroft at this time if it had a reserve fund; would it not enable it to accept the proffered assistance of its amiable friend, and put it in a position to increase its produce at least tenfold, and enable it to pay dividends instead of making calls. It must be borne in mind that the water charges, rents, and agencies are about the same, whether worked by hand or machinery, and the benefit from these items alone in the latter case, in those deep mines, is sufficient to make a handsome dividend.

Another very important improvement in connection with the boring machine is "electric blasting," by which any number of holes can be blasted simultaneously. The advantage of this is that any number of sinking holes in a shaft or cutting holes in an end can be brought to bear on the portion of rock it is desirable to remove, by which means the explosive can easily be proportioned to the resistance to be overcome, and the whole of the holes blasted together invariably after the men become acquainted with the ground, which is only a question of a few days' experience, secures a good sink or cut, which is the essential desideratum in penetrating hard rocks. The Cornish miners will probably be inclined to disbelieve this, as I was myself before I saw a 4 ft. cut taken out of a hard ground tunnel by the blasting of four holes simultaneously.

Another important improvement which has not yet been successfully introduced in Cornwall is the sinking of shafts with the boring machine, but has been attended with great success in other parts of England and America, where even five times the rate of hand labour has been attained, and I cannot understand why it cannot be done in Cornwall. One thing I am very certain of is that as many holes can be bored in a shaft's bottom in eight with the machine as can be bored by hand in 24 hours, and if all the sinking holes are fired simultaneously a far better sink will be obtained than by the old system of blasting one at a time, and I have not the least doubt that even in Cornwall four times the rate of hand labour in sinkings will be attained ere long with these two improvements combined. Whilst speaking of shafts I would revert for a moment to what I have already said respecting them—that the benefit of these improvements are vitiated in a great measure in some of the old mines by the incapacity of the shafts to discharge the extra quantity of debris and ore arising from their use, which will naturally suggest the desirability of making all new shafts equal to the requirements of the improved system of mining. Although in Cornwall and some other districts the old expensive system of winding with the kibble has scarcely been superseded by the skip in the coal and iron mines, a far more economical and expeditious system of hoisting than either of the before mentioned has been in use for a great number of years, and which consist in hoisting the wagons direct from the various levels to surface by means of a cage, thereby obviating the cutting of large tip-plates—which is not always safe in soft ground, and very expensive in hard rock—the tipping of the wagons into the plat, and then shovelling it into the kibble or skip. The advantages are obvious, and require no comment to elucidate them. The dimensions of a whim-shaft to work cages in are 8 ft. by 5 ft. without the patent catch, and 9 ft. by 5 ft. with it. The latter is highly preferable, as it saves a deal of hindrance and expense in preventing the fall of the cage in case the rope breaks, which in some deep mines occasions hundreds of pounds of damage to the shaft, and a loss of produce of ore for several weeks while it is being repaired, which means the loss of a dividend, or at least a portion thereof.

In carrying out this it will be necessary for the first 10 fms. of each level striking out from the shaft to have a double line of rails. By this system fully 20 tons can be hoisted in the same time as 1 ton is hoisted by the old kibble system, and the only outlay to obtain that result is the making of the shaft and first 10 fms. of the levels or so a little larger, and providing a few extra wagons. Whilst saying so much about new things, I should like, in conclusion, to say a few words about some good old things which in one case apparently was done away with before anything new was brought to replace it. It has been an old-established rule in setting contracts to miners to stipulate that they are to drive or work as directed by the agents of the company; but, unfortunately, in setting to the boring machine in one instance it seems to have been omitted, and taking, apparently, the advantage of its absence, it ran away after or selected the easiest ground, and persisted in following their course in defiance of the agents, and naturally made great progress, incurring great expense on the company to no purpose, having lost the lode; so that the enormous sum which was spent with the object of speedily ascertaining and realising its value has, I understand, failed to accomplish its purpose, and the value of this lode is as little known now as before the money was spent in consequence of the omission of this good old rule. This, then, naturally suggests, too, that while we are so earnestly engaged in establishing new things we should be equally earnest in preserving the old contrivance until something at least equal in value, if not better, is made to replace them.

Stanley-street West, North Shields, Feb. 25.

REDUCING SULPHIDE ORES WITHOUT FUEL.

SIR.—I delayed referring to Mr. Hollway's propositions in last week's Journal because he had had no opportunity of replying to the adverse criticisms offered in the course of the discussion upon his paper, but as his reply has now been published it may be assumed that both sides of the question are before the world, and I regret to find that does not add anything to the proof of the utility and practicability of the process. Although there is unquestionably a connection between chemistry and logic it is not such a connection as Mr. Hollway suggests. His experimental data were, without exception, negative so far as concern the production of copper from its ores with the contained sulphur of the sulphides as the only fuel; therefore, using his data as the premises of the syllogism they would stand. No suitable apparatus was employed; no satisfactory results were obtained; therefore no conclusion can be drawn. But this shows the absurdity of improperly mixing—that is, of producing a merely mechanical mixture instead of a chemical compound of—logic and chemistry. In his eight statements of claim Mr. Hollway does not deduce his assertions from results obtained, but simply records his results in a modified form, and connects them with statements which, upon careless reading, would attach an importance to them which they do not possess. The Hollway process may be capable of development, but to make it of any commercial value it must be shown that in its improved form it will not be less advantageous than the processes now in use.

As to the similarity of Mr. Keates's and Mr. Hollway's processes there can be no doubt that Mr. Hollway is correct in stating that there is no connection between them—a fact which no one would more readily admit than Mr. Keates, as he is a practical copper smelter, and would, therefore, be no more likely than Mr. Vivian to believe in the practicability of the new process. But neither the opinion of Mr. Vivian nor that of Mr. Keates would place Mr. Hollway at the slightest disadvantage with the public if he can show anything definite; indeed, in that case, none would be so ready as the smelters themselves to adopt it. But at present, so far as his paper and letter show, he has done practically nothing. He appears merely to have got an unmanageable mass of slaggy matter with veins of regulus disseminated through it; for he says with reference to the fifth experiment, which is really the only one that has an analysis of a merchantable regulus attached to it, that "this regulus was found to contain 12 metallic copper" (that is under 2½ lbs. of metallic copper in the ton of regulus), so that the gold and silver contents would not be worth consideration; and, further, that "the rest of the ingots consisted of a mixed regulus and slag, the lower part being a basic silicate of protoxide of iron with regulus entangled therein in minute veins throughout the mass, the upper part containing less entangled regulus than the lower part." The entire regulus thus gave 63.57 per cent. of copper, but Mr. Hollway does not state what proportion of the ingot was formed of this. It might have been only one-tenth part. This is, however, a point on which information is required. I wish Mr. Hollway success, but at present he really appears to have got only such a mass as is sometimes obtained when the ordinary calcining process is badly conducted.

Truro, Feb. 24.

MINER.

MINERS' WAGES IN THE WEST.

SIR.—A correspondent in last week's Journal considers the present earnings of the miners are much too high, and ought to be still further reduced. Taking 13s. per week, the wages named by "Finance," it will be interesting to see how far this amount will go in support of a man, wife, and an ordinary family of (say) three children. Allowing 5s. per week for rent, fire, clothing, schooling, and incidentals, the members of the family have to exist upon something like 1d. per meal each. This at present seems to be the limit afforded to a race of skilled, industrious men employed in a dangerous occupation in the richest nation in the world.

London, Feb. 27.

A SYMPATHISER.

HALKYN LEVEL MINES DRAINAGE—ROCK DRILLS.

SIR.—In an editorial notice of our report to the Halkyn Mines Drainage Company in your last week's Journal regret is expressed that the kind of drill used in driving the deep level is not stated. We have much pleasure in supplying this information, as the machines during the 12 months which they have been at work have given every satisfaction, and the speed at which the level is being driven is, we believe, greater than has previously been attained in any metallic mine. The Beaumont Percussion Drill has been exclusively used in the prosecution of this work, and to the excellence of its construction, which renders it capable of striking a very heavy blow with but little liability to breakage, is due in a great measure the fine result obtained.

Since Feb. 19 last year, on which day the machinery was started, the forebreast of the level has been advanced 800 yards, and in the month of January a distance of 87 yards was driven, the rock being a hard and compact limestone. The drills in use, which are of a large size, are exactly suited for the work we have in hand, where extreme speed is required, but would be inconveniently heavy for ordinary mining purposes. Col. Beaumont has, therefore, constructed a machine upon the same principle, but of a much lighter pattern, which we have seen at work, and I think will be found to answer admirably, and to give results as satisfactory for the purpose it is intended as the larger drill does.

Queen street-place, Feb. 27. — JOHN TAYLOR AND SONS.

ROCK-BORING MACHINES.

SIR.—About twelve months since you inserted a detailed account from Capt. Barkell of the rapid sinking of a 21 fm. shaft just completed by two Darlington rock borers at the Ballacorkish Mine, Isle of Man, showing that the speed attained was five and a half times that of hand labour, and the cost about one-third less. Since that time these machines have done excellent service in driving levels, and it will no doubt interest many of your readers to have some particulars connected with the last 135 fms. of ground driven—at the 60, or deepest level below the adit. With the view of rendering my remarks as clear as possible they will be arranged under distinctive heads.

LEVEL.—The level is driven partly on the lode and partly in the country. Its dimensions are 6½ ft. by 7 ft. high, giving a sectional area of 45 square feet, or 270 cubic feet per lineal fathom.

LODE AND ROCK.—The lode is enclosed in tough clay-slate, which includes strings and branches of country spar. The lode itself is composed of quartz, clay-slate, lode spar, and occasionally strings and leaders of blende and lead ore. For boring and blasting purposes the ground may be described as short, juinty, vughy, and of varying degrees of hardness.

CUTS AND HOLES.—The method of working is a combination of the circular and vertical cut system. About 8 holes are required to bring out the centre cut, and from 12 to 14 holes for the removal of the side cuts. The diameter of the holes at the top is 1½ in., and at the bottom 1¼ in. The average depth of the holes at this time is 48 in. Two Darlington No. 2 machines, 2½ in. effective blow diameter, are usually run together, these machines being mounted on a Darlington stand.

CHARGING AND BLASTING.—The holes are charged with dynamite, and simultaneously blasted by means of a Bornhardt's machine and electric fuses. In order to keep the ore-bearing part of the lode intact, it is necessary to blast—1, to remove the centre cut; 2, the unproductive part of the lode; and 3, the productive part of the lode. In driving in compact ground two instead of three blasts would be sufficient to remove the cut of ground.

REMOVAL OF STUFF.—The stuff is removed by means of the ordinary mine wagons, which hold about 15 cwt. each.

MEN EMPLOYED.—Six miners and three labourers are employed. These men perform the entire work of boring, charging, and blasting the holes, and removing dislodged stuff a distance of 150 fms. to the bottom of the shaft.

PRICE OF GROUND.—The hand price of the ground is 11¢. 10s. per lineal fathom. The machine price, including all charges for labour, materials, dynamite, smith's cost, and wagoning the stuff to the shaft has averaged 7¢. per fathom, to which is to be added cost of compressing the air for running the machines and ventilating the level itself.

RATE OF SPEED.—The speed throughout the whole length of 135 fms., under the conditions referred to, has been about 20 lineal feet per week. The maximum speed obtained has, however, been 30 lineal feet per week. The number of tons of stuff removed to the shaft from the 135 fms. of ground driven has been 2925, or nearly 22 tons per lineal fathom. The number of cuts of ground made to obtain the length of ground driven—135 fms.—was 238, or nearly 3½ ft. of ground per cut. The average depth of hole made per cut of ground was 46 in., the total number of holes bored by the two machines 4152, making 16,043 lineal feet.

DYNAMITE.—The total weight of dynamite consumed was 3266 lbs., or 24 2 10ths per lineal fathom.

TIME.—The time occupied in introducing and removing the boring stand, boring the holes and charging them, averaged 8 hours per cut. With four machines running together at the same time it would have been reduced to four hours per cut.

MONEY SAVING.—The hand cost of driving 135 fms. of ground would have been 1532¢. 10s.; the machine cost, exclusive of cost of compressing the air for running the machines was 945¢.

ELECTRIC BLASTING.—The gain on blasting by electricity over that of blasting by means of fuse was 15s. per running fathom of ground. The results at Ballacorkish are greatly due to the care manifested by Capt. Barkell in conducting the work, and to the complete co-operation and intelligence of the miners and labourers forming the

pare. Higher rates of speed are attained by doubling the number of machines, quadrupling the number of men, and trebling the quantity of dynamite per lineal fathom of ground, but if speed and economy of working are to be regarded as essential conditions to be observed in the conduct of mine works, then the Ballacooish result will, I am satisfied, compare most favourably with any results obtained elsewhere. The fact that all this work has been done without having any mechanic on the mine shows the advantages of the extreme simplicity of the valveless borers for the rough work of mines. 16, Bishopsgate Avenue, Feb. 27. FRED. J. KING.

THE BRITISH DIVIDEND MINES OF 1878.

SIR.—Things are never so bad but they might be worse, and though the Annual Dividend Sheet for the past year, published in last week's Journal, does not show quite such a cheering state of things as we could wish, yet, taking all things into consideration, it does not compare unfavourably with the previous year. Comparing the percentage of dividends on the existing allotted capital we find it to be in 1877 16 per cent., against a little over 11 per cent. for last year, or nearly 5 per cent. less. The existing allotted capital in 1877 was 1,104,481l., and in 1878 1,038,988l., or 65,493l. less. The dividends were 173,771l. and 116,441l. respectively, showing a diminution of 57,330l. for the past year—from 27 companies, against 31 in the previous year. This at first sight seems somewhat disappointing, but the cause of this falling off is very apparent.

The price per ton of black tin has fallen from 41l. 15s. in 1877, to 35l. 12s. 6d. in 1878, or 6l. 2s. 6d. less. Lead ore from 13l. 1s. 3d. to 10l. 13s., or 2l. 8s. 3d. less. Pig lead from 21l. 15s. to 16l. 19s. 8d., or 4l. 15s. 4d. less; whilst copper ore appears to be unchanged. It will be seen, therefore, by looking at the returns that the deterioration of the produce sold for the past year is far greater than the falling off in value of the dividends, thus proving that greater economy has been practised in the raising of the same. It also shows us this, notwithstanding those who would have us believe that the mining interest of England must give way to the foreigner, that there is life in English Mining yet.—Feb. 25. H. C. S.

LEAD MINING AS AN INVESTMENT.

SIR.—One of the most pertinent questions at present occupying the attention of capitalists, whether holders of great or small sums of money, is how and where to invest safely, and with the fairest prospect of reasonable remuneration? During the last few years many highly esteemed and approved classes of investment have justly fallen in public estimation from their unsoundness and defective system of management. Since 1866 we have seen Joint-Stock Banks and many kindred financial schemes collapse, and carry irretrievable ruin and endless misery to hundreds of homes throughout the length and breadth of the land. We have witnessed Railway Companies impoverish thousands of unfortunate shareholders, and the effects of the practice so much in favour until lately of investing in Foreign Loans and Securities have already been forced upon us with crushing severity, even while the extent of the disasters are but partially known.

Great misfortunes, however, nearly always convey salutary lessons. One result already apparent is the awakening amongst investors of a more cautious and enquiring spirit, which is strongly exhibited in the desire to be better acquainted with the facts concerning our home industries, especially with that one which is dependent upon the metallic resources of Great Britain, and all who honestly desire to secure for the art of Lead Mining the position it deserves as a medium for the profitable employment of capital must be pleased to witness this turn which the public attention is now taking, being assured by the more diffused knowledge of the true character of the work, the enormous returns produced by the comparatively small amount of capital embarked, and the many successes, must still further attract the earnest attention of all unprejudiced persons, and serve to establish on a still firmer basis an industry capable of great extension, so bountifully remunerative yet so long neglected, often willfully misrepresented, and until lately but indifferently understood. There is ample scope within the confines of our own land for the employment of almost any amount of capital, and in such a way as to secure a large and permanent profit, there being at the present time many mines that with a few thousands judiciously expended upon them would prove an early success, and as wages and materials are exceedingly low, no opportunity should be lost in the thorough development of such mining properties, while at the same time it will be the means of considerably ameliorating the condition of thousands of our fellow-countrymen of the working classes. The solution, then, to the difficulty experienced in finding safe investment for surplus capital may assuredly be found by those who seek with the intention of being guided by the facts which ordinary enquiry will reveal to them, for it will be at once clear that when a lead mining property is situated in a known metaliferous locality, and has evidence of contained riches, is managed with honesty and ability, success cannot fail to result, bringing great and lasting advantage to all concerned.

Wrexham, Feb. 25.

JOHN L. M. FRASER,
Mining Engineer.

WHEAL BASSET RE NORTH BASSET.

SIR.—I was pleased at some of the remarks of Mr. R. Symons in his letter in last week's Journal for these reasons—first, that the thing is a speculation, not a certainty; secondly, that the capital (5000l. or 6000l.) spoken of is quite absurd, and for the well-being of mining as a commercial undertaking speculators should not be duped into properties in any such, because a person willing to put 500l. in a concern being told that will make it pay, and then find he must either add 1500l. more to it by degrees or sell out at any sacrifice, or submit to forfeiture and cost following, very naturally brings mining into bad repute without the least occasion. If the more open and straightforward course is taken at first of fairly stating probable expenditure, then individuals having 500l. to spend, instead of taking up 20 shares at 5l. each, will arrange for five shares at 20l., and see the thing to the end, the result being good or bad, and have all the benefit if there should be any prize, whereas on the former plan he loses his cash and forfeits all. AN OLD MINER.

Feb. 27.

CORNISH MINING, AND ITS PROSPECTS.

SIR.—The rise in the price of tin confirms the opinion recently expressed by the writer in the columns of your widely circulated Journal that ere long a rush will be made by the investing public on the mining stock of the country, the demand for which the last few days has reached quite an excitement; instances of 10,000l. to 12,000l. rise in the market value of a single mine have occurred since my letter of last week, the favourite stock of the market, of course, being the first to be affected, while mines of equally legitimate value must in due course have their turn, affording those who embrace the earliest opportunity to realise quick profits, those of which throughout the low price of metals have paid their costs, kept free from debt, and now welcome the long-desired advance to be transformed into the Dividend List, being among the foremost to advance in market value. I would counsel my friends to make early enquiry as to the best properties for investment. Signs of life are also visible in the hitherto torpid state of the public mind towards the new or unwrought ground of the country, the development of which I have long advocated, and of the existence of inexhaustible mineral wealth the most sceptical have never doubted. It is always well to use ordinary discretion, but it is also unwise to be so over-cautious as the British public would seem to be towards our home enterprises. We are being continually reminded that the foreigner can send into this country minerals against which the English miner cannot compete; but I fail to see why. The low prices must affect the foreigner as well as the English miner. As a great authority said the other day, in a lecture delivered at Plymouth, speaking of tin lodes:—"At the present day, with half the men and half the number of mines, the full supply is being kept up." And as the present advance is attributable to the improved demand for tin from nearly all quarters, surely the resuscitation of mines, with a capital well directed, will enable us further to compete with the foreigner, give a larger profit on less

capital than is now sent away for the development of mines abroad, keep at home the very "blood and sinews" of our little domain which contributes so much to the greatness of this country, disperse the poverty clouded homes of many a miner's family, and enrich those who join the enterprise. CHAS. BAWDEN.

St. Day, Scortier, Cornwall, Feb. 27.

MINING IN CARDIGANSHIRE.

SIR.—Mr. "G. J." has chosen a very nice time for fixing a value on the Cardiganshire mines, when the price of pig lead is down to 13l. per ton, and as he has asked your Correspondent for Salop, &c., to substantiate his statement, I have little doubt but that he will comply with his request. I need scarcely observe that at the present price of lead there is scarcely a mine in the kingdom that can be worked at a profit. What the object of these gentlemen can be in introducing or running down the Cardiganshire mines I know not, but I will venture to assert that neither of them hold a pennyworth of interest in any mine in this county, and therefore they can only be compared to the "dog in the manger," who not being able to do anything themselves are doing all they can to prevent others from doing so. There are more mines than one in Cardiganshire that have given over 25,000l. as yearly profit, and there are as good fish in the sea as has ever been taken out of it. MINER.

Goginan, Feb. 26.

PARYS MOUNTAIN AND MORFA DU.

SIR.—The particular attention now directed to these mining companies justifies the favourable remarks of your correspondents for some few weeks past. I observe in Parys Mountain that in the drive in the 90 south a favourable feature presents itself—that more sulphur is coming in every fathom that this most important level advances, increases the great interest manifested since the late inspection of the adjoining mine. The present estimated value, as remarked by Messrs. Watson Brothers, being nil in comparison to what it must rise to, more especially with the good days coming in all mines. In Morfa Du Mine the promised increase in the returns (dug out at 6s. 6d. to 7s. per ton only) ought to buoy up the shareholders for very large dividends already being earned, and with a six months' contract for all the company can turn out at a good profit must create a hopeful feeling among those concerned.

A CORRESPONDENT.

[For remainder of Original Correspondence, see to-day's Journal.]

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the markets have been inactive, and no great change has occurred in prices. The usual fortnightly settlement has intervened, and particulars of the continuation business done are given below. The new account for settlement, March 14, has, owing to the continued depression of trade, opened without any animation. Notwithstanding the low rates allowed for money in the banks investors are apparently not very anxious to employ it otherwise to mere profit, though it is admitted a time like the present, when prices are much below the average, is a good one in which to invest.

In shares of coal and iron companies, Marbella have advanced 3s. per share, Glasgow Port Washington and Scottish Australian each 2s. 6d., and Scottish Australasian (New) 1s. 3d. On the other hand, Omoa and Cleland are lower at 5s. to 7s. 6d. Benhar also declined to 13s. 6d., but have recovered a little upon the decision given below that transfers can now be legally carried through in the usual manner. Cairnbarrow shares are now quoted ex div. At the meeting of Andrew Knowles and Sons, yesterday, a dividend was declared of 5 per cent. for the year ended Dec. 31, inclusive of the interim dividend paid in July last. The meeting of Charles Cammel and Co. (Limited) was also held yesterday, when a dividend of 5 per cent. was declared, as against 7½ per cent. last year. The amount available for dividend, including 17,177l. brought forward, was 64,859l. The dividend absorbs 40,000l., and 5000l. is added to the reserve fund, leaving 19,859l. to be carried forward. Bilbaird are at 20½; Bolckow, Vaughan, & Co. 31; Chapel House, 37s. 6d. to 40s.; Chillingham, 37s. 6d. to 42s. 6d.; Elbow Vale, 16½ to 18½ dis.; Lydney and Wipolow, 9 dis.; Muntz's Metal, 52s. 6d. prem.; Pelsall, 10½ dis.; Sandwell Park, 14; Staveley, A, 30s. dis.; ditto, B, 17s. 6d. dis.; Thorp's Gawher Hall, 20s.

In shares of foreign copper companies, Huntington has advanced 7s. 6d., but Cape are reduced 1l., and both classes of Tharish shares 12s. 6d. Tharish touched 21½, but are now a little firmer, as the present price includes a whole year's dividends. Rio Tinto 35s., and 5000l. is added to the reserve fund, leaving 19,859l. to be carried forward. Bilbaird are at 20½; Bolckow, Vaughan, & Co. 31; Chapel House, 37s. 6d. to 40s.; Chillingham, 37s. 6d. to 42s. 6d.; Elbow Vale, 16½ to 18½ dis.; Lydney and Wipolow, 9 dis.; Muntz's Metal, 52s. 6d. prem.; Pelsall, 10½ dis.; Sandwell Park, 14; Staveley, A, 30s. dis.; ditto, B, 17s. 6d. dis.; Thorp's Gawher Hall, 20s.

In shares of gold and silver mines, Richmond are 1s. 3d. per share higher, but very few sales of them have been made. The price at one time was 10 to 10½, but now only 9½ to 9¾; the week's run is 850,000l. The profit of St. John del Rey for January has been 5300l., and the produce for the first division of February 11,750 cwt., yield 54. The returns, and consequently the profits, of this mine are at present underlaid by the necessity of employing labour on exploratory works neglected previously in place of extracting the usual amount of mineral. The produce of Don Pedro in the same period was 500 cwt. The London and Californian Company have purchased two partially developed mines in the vicinity of their Original Amador Mine, and as the properties have been approved of by the underground manager of the Pinnas Eureka, it is likely the investment will be profitable. The Master of the Rolls has given a decision in favour of the Emma Mine against Mr. Grant, by which the latter is to refund 18,914l. less expenses. Australian mines enquired for—Chicago Silver, ½ to 1; Chontales, 11s.; Colorado United, 35s.; Don Pedro, ¾; Elberhardt, 35s.; Eschschuer, 3s. 9d.; Flagstaff, 3s. 9d. to 6s. 3d.; New Zealand Kapanga, 11s.; Rossa Grande, 2s.; Santa Barbara, 35s.; South Aurora, 2s. 6d. to 5s.

In oil companies shares Young's Paraffin are 5s. lower; Price's Patent Candle higher, at 9½ to 10½. Runcorn Soap and Alkali shares yield 3¼ per cent. at present price, 9 dis. In miscellaneous companies shares Phospho-Guano are 11s. 6d. lower. Avon-side Engine also lower, at 7 dis., but otherwise no business has been done. The meeting of the Birmingham and Midland Counties Val de Travers Company was adjourned to March 14. The Phoenix Assurance Company, which was established in 1874, has declared a dividend of 10 per cent. for last year. The profits were largely due to Government orders. Liverpool Rubber shares will yield 8 per cent. at present price, 44½. In wagon companies shares Scottish (new) are offered 5s. lower, at 70s., and an odd lot of the old shares was sold at 8½. Prices of others are—Birmingham, 45s. prem.; Gloucester, 6¼; Metropolitan, 45s. prem.; Midland, 7¼; Railway Carriage, 80s.; and Starbuck, 12¼. Chemical Companies shares, all lower, prices—Langdale's, 85s. to 87s. 6d.; Lawes, 8½; and Newcastle, 17s. 6d. to 20s.

WYNAED GOLD PROPERTIES AND RIGHTS.—A provisional agreement has been entered into, subject to acceptance by March 1, by the trustees of Nicol and Co. Bombay, to sell the properties and concessions held by or for them in the district of Wynaed to a company which is being promoted in Glasgow. The price to be paid at once is 10,000l., with a further interest in the profits specified below. The purchasers engage to lay out a sum of not less than 10,000l. for experimental purposes, and if the results are satisfactory a further sum of 25,000l. will be provided to extend the working. If gold is found, the profits derived from working it are to be applied, first, in repaying the purchasers, in all 50,000l., for their capital, and afterwards to be divided in equal proportions between the purchasers and the vendors.

As soon as four million pounds sterling of the profits have been so divided, the further profits are to be apportioned as follows:—50 per cent. to the purchasers, 20 per cent. to the vendors, and the remaining 30 per cent. to the liquidators of the City of Glasgow Bank, for the benefit of the shareholders thereof, until such 30 per cent. shall have amounted to five million pounds sterling, when the liquidators will get no more, and everything will be equally divided between the vendors and purchasers. Of course, a proportion of the first four millions payable to the vendors shall benefit the City of Glasgow Bank by the satisfaction of the indebtedness of the vendors to that bank. In the event of the properties proving sufficiently satisfactory to justify further expenditure as a commercial undertaking, a company is to be established with capital of sufficient amount for the proper and efficient working of the properties on a large scale—the object of the vendors being, if the gold reefs prove rich enough for profitable working, that the largest possible results should be obtained in the shortest possible time. The purchasers are to be allowed to divide the properties, and work the same by separate companies. The promoters are now endeavouring to get the funds necessary for completing the purchase and exploration and working of the property. The liability of shareholders is to be limited.

BENHAR COAL COMPANY (Limited).—A petition was lodged in the Court of Session on Monday in connection with the proceedings for a judicial winding up of this concern, praying the Court to order the transfers of shares already lodged and to be lodged with the

company to be duly entered in the register of shareholders. The petition states that 473 transfers have been lodged, and others will duly be lodged, for registration, but that those have not been proceeded with in consequence of the pending winding-up petition. In consequence of this the Stock Exchanges refuse to sanction dealings in the shares, and both of these actions are very detrimental to the endeavour being made to carry out a scheme for maintaining the company as a going concern. The shares of the company, it is pointed out, are fully paid up, and, therefore, the creditors have no interest in the matter as to who holds them, but on the other hand it is important for the interests of the company and of the present holders of shares thereof that transfers should continue to be registered in order that the actual proprietors may attend the meetings, &c. On Tuesday when the foregoing petition came up for hearing no one opposed it, and the Court issued an interlocutor to the effect that the company with the concurrence of the liquidator may authorise the registration of any such transfers of shares.

LANGNESS MINE.—Operations at the mine have been retarded for some time by an accident to the engine boiler happening at the time when a good improvement was expected, but work in the bottom has now been resumed. The nip has continued hard and tight, but the vein has again commenced to open, and to bleed a good feed of water. Balls of sulphur (mundie) are being got, and the improvement above referred to is apparently, seeing the compactness of the ground, about to take place. Samples of the vein stuff, and particularly of the larger nuggets of copper previously taken out of the 25 fm. level, are astonishingly rich. There can be no doubt this is the best progressive copper mine in the kingdom.

SPON LANE COLLIERY COMPANY (Limited).—The fourth general meeting of this company was held on Feb. 24 and formally adjourned for a few weeks with a view to enable the directors to present a complete report, not only of the mining operations, but also of the future prospects of the undertaking. It will be remembered that at the special meeting recently held it was resolved to make further explorations in order to ascertain whether coal and other measures exist on that part of the estate not yet proved, and this is at present being carried out. On Contango day, (Monday) the following were the rates of continuation current:—Contango: 1d. on Glasgow Caradon, 4½d. to 6d. on Richmond, 6d. on Tharish, 6d. on Uphall Oil.—Backwardations: 1s. 3d. on Tharish, even 3d. on Young's Paraffin. On comparing the making up prices fixed to-day for the shares named with those of the same shares at the previous settlement, the variations thus shown to have occurred during the account are as follows:—Richmond have advanced 12s. 6d. per share, Marbella and Uphall each 5s., Young's Paraffin 3s. 9d., Glasgow Caradon 1s., and Huntington 6d.; on the other hand, Tharish (new) are 12s. 6d. lower, ditto (old) 7s. 6d., and Benhar 2s. The others remain unaltered—Glasgow Port Washington, Monkland, and Oakbank Oil.

MONTHROSE SLATE QUARRIES (Limited).—In a circular letter, issued by a London firm of accountants, this property is described as 2000 acres in extent, situated at Aberfoyle, in the county of Perth. It is said to be the largest and most valuable in Scotland, but this must be news to the people in the neighbourhood. It is next stated that large quantities of slate are annually turned out and sold in the district, or at the company's depot in Glasgow. Last year the profits were sufficient to pay a dividend on the ordinary shares, but it was not thought expedient to divide it. In future years, however, there will, no doubt, be satisfactory dividends declared. The object of the letter is to sell some 20l. debenture bonds of these quarries. These are secured upon the whole of the quarries and effects of the undertaking. The bonds are to bear, quarterly coupons being attached for interest at the rate of 12 per cent., and they are redeemable at par by half yearly drawings within 12 years. With each debenture a 10l. fully-paid bonus share is presented, entitling the holders to a proportion of the surplus profits of the quarries, and which they will retain after the debentures are redeemed. The investment tempts those who are greedy for great interest, but are not likely to find many purchasers in the district of the quarries.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, February 27.

Meetings of Public Companies.

HINGSTON DOWN CONSOLS MINING COMPANY.

An extraordinary meeting of shareholders was held at the offices of the company, St. Andrew's House, Cornhill, on Wednesday, Mr. H. P. HALL in the chair.

Mr. T. B. LAWS (the secretary) having read the notice convening the meeting, the following report of the directors was submitted:—In accordance with the terms of the notice calling this meeting the directors have been compelled to reconsider their position with regard to the resolution passed at the last general meeting to continue the operations of the mine upon the scale of workings at that time in progress. The severe depression of the mining industries in Cornwall, which has continued for so long, and which has fallen so heavily on this company, has evidently discouraged many of the shareholders, whilst a large number, on the other hand, are not willing to let the property be sacrificed at a time when a realisation of assets would produce but a small sum in return for a plant of such representative value.

The directors have thought it better, therefore, for the general interests of all, that this extraordinary meeting should be convened; and, in order that the shareholders might be able to form a correct judgment of the prospects and probabilities of their property, two members of the board proceeded to the mine to confer with Capt. Thomas Richards upon the situation of affairs. After a careful survey of the discussion as to the best means of dealing with the difficulty before them, Mr. Richards recommended a plan of working which is embodied in the estimate. The method indicated shows an estimated loss of about 120l. per month, of 13 months per annum, but this may be reduced by fresh discoveries in the old workings; and it is also confidently anticipated that the small branches of ore met with in the adit level will lead to good results.

As will be seen by the proposed scale of workings the deep levels are for the present suspended, but it is the opinion of practical men that these should at the earliest date be resumed, the shaft sunk, and levels driven east and west at 185 fathoms, but your directors are not prepared to make any recommendation as to this, as it would entail a heavy outlay. To carry out the plan proposed by Captain Richards it will be necessary to make further demands upon the shareholders, and an immediate call of 1s. per share will have to be submitted to, and arrears due upon the last calls at once paid up. Your directors for the present recommend that the works be proposed by Captain Richards should be proceeded with, and they believe that the majority of the shareholders will agree with them.

The CHAIRMAN said to carry out the plan recommended by Capt. Richards a call of 1s. per share would have to be made, and the arrears paid up.

A SHAREHOLDER asked what was the amount of the calls in arrears?—The CHAIRMAN replied that it was 225l., of which 211l. was due on the last call. There were now a little over 17,000 shares in existence. He then read Capt. Richards' estimate, showing the estimated costs per month as 195l. 6s. 6d.; 30 tons of ore per month, at 2l. 10s. per ton, 75l. = 120l. 6s. 6d. The prospects at the adit are exceedingly good, as also the tributary's rise, in whole ground, in the back of the 110. A pitch in the bottom of the 35 is likely to yield good returns; this is also in whole ground.

A SHAREHOLDER asked if the water was kept out of the bottom of the mine?

The CHAIRMAN replied that the water was out to the 172 fm. level, where operations were being carried on. The question before them was the expediency of carrying on the works at a reduced cost. In reply to further questions the CHAIRMAN said the liability of the shareholders was at present 1½s. per share, and if the proposition of the directors were adopted, a call of 1s. per share would be made, and the liability reduced to 12s. per share. They expected to find a great lode in the 35 fm. level. If the shareholders decided that the mine should at any time be drained it could be done very quickly, and without much expense, as the engine was there, but this would probably necessitate a further call.

The Hon. H. G. ROPER-CURZON thought it would not be well to call up too much of their capital, and then perhaps have to liquidate the company.

The CHAIRMAN read a letter from Mr. T. Morris recommending that the mine should be shut up, and also letters representing 3109 shares held locally in favour of continuing operations upon a limited scale. He had also received proxies from some of the largest shareholders for continuing the working of the property, showing that the majority of the shareholders were in favour of that course.

Mr. BUDD asked whether they could give up working the other parts of the mine, and confine themselves to the driving of the adit?—The CHAIRMAN replied that the permission of the Duchy had been obtained for that purpose, but they could not work a lode in the adit without sinking an air-shaft.

Some conversation then took place with respect to the use of copper for the purpose of lighting by electricity, in the course of which the Hon. H. G. Roper Curzon said continuing operations upon a limited scale. He had also received proxies from some of the largest shareholders for continuing the working of the property, showing that the majority of the shareholders were in favour of that course.

Mr. BUDD thought the expense of copper conductors would be far too great to admit of the use of that metal, and that should electric light be generally adopted for lighting, it would be communicated through pipes made of some preparation of iron.

In reply to a question, the CHAIRMAN said if they adopted the modified plan of working recommended by the board they would be liable to the old royalty of 1-16th instead of 1-100th; but application would be made to the Duchy for the reduction to 1-100th to remain for the present. He then moved the adoption of the directors' report, and that the mine should be carried on according to the modified scale recommended by Capt. Richards.

The Hon. H. G. ROPER-CURZON seconded the motion.

Mr. C. O. BUDD proposed as an amendment that the company should be wound up voluntarily.

Mr. CARNEY seconded the amendment, which was put to the meeting, and lost by six to five, without using the proxies, and the original motion was carried.

The CHAIRMAN said he had still faith in the mine, and he hoped that the prognostications of some of the shareholders would not be verified. The directors would at once call up 1s. per share.

On the motion of Mr. F. WEBB, seconded by Mr. C. ETHERINGTON, a resolution was passed requesting the directors to enforce the payment of calls in arrears without delay.

It was stated at the meeting that two branches had been cut in the adit, clearly showing that there was a good lode ahead. In a few feet driving westward it was

pected the two branches would come together, when a considerable improvement may be looked for.
The meeting then terminated, with the usual compliments.

PENHALLS MINING COMPANY.

The general meeting of shareholders was held at the company's offices, Austinfriars, on Tuesday.

Mr. CHESTER CHESTON in the chair.

Mr. JAMES HICKEY (the secretary) read the notice convening the meeting, and the minutes of the preceding one, which were confirmed. The statement of accounts embraces all expenditure and liabilities up to and including the cost-sheet to Jan. 18, which had been paid on the previous Saturday, and showed—Expenditure, 5241l. 15s. 11d.; receipts, 1700l. 11s. 11d.; leaving a debit balance of 3541l. 4s. The subjoined report of the agents was then submitted:—

Feb. 22.—Since your last general meeting the flat road shaft has been sunk a few feet only, owing to the water having become too plentiful for sinking without the aid of some drainage appliances. Immediately this increase of water occurred the men were put to work towards the shaft from the 60, and have accomplished about 2 fms. The part of the lode (which is a middle portion) on which the 70 east end has for several fathoms been driven is of a very promising character, although as yet it is worth only about 6l. per fathom. Its bearing is again towards the south part, and a junction of these will no doubt form a far more productive lode. The surrounding kills, too, containing small veins of tin, is another good feature in this part of the mine. Two stops in the back of this level are worth respectively 12l. and 7l. per fathom. The lode in the winze below the 60 has been worth from 8l. to 10l. per fathom; this winze is now down on the downright fault. The north part of the lode in the 60 east end is at present very small, although rich in tin. Three stops in the back of this level are worth respectively 10l., 8l., and 6l. per fathom. The 55 east end, on the middle part of the lode, is worth 8l. to 6l. per fathom. Three stops in the back of this level are worth respectively 10l., 7l., and 7l. per fathom. The aggregate value of the stops now at work is somewhat higher than it was some two or three months since, and the tribute pitches are on the average slightly improved.—S. BENNETTS, P. VIAN.

Mr. J. C. DAUBUZ, J.P., remarked that the position of Penhalls had attracted the serious consideration of some of the shareholders in Cornwall, and they felt that it was desirable in the interest of all concerned that the mine should be thoroughly inspected by independent agents. Messrs. R. and S. Davey and himself had, therefore, taken upon themselves the responsibility of appointing Capt. W. Rich and Capt. Josiah Thomas to make a report, with regard to which he might say that the object they had in view in obtaining it was the future amalgamation of Penhalls and Blue Hills, which he regarded as most desirable if it could be effected. He would, with the permission of the Chairman, read the report:—

Feb. 17.—I have carefully inspected these mines, and find the Penhalls engine-shaft is sunk to the 80 under adit, but the lode below the 70 is small and disordered. Operations are, therefore, suspended in the bottom of the mine. The 70 is extended a great distance east of the engine shaft; the lode in the end is worth 6l. per fathom, but in all probability the main part of the lode is standing north of the present driftage, as a stop of a few fathoms behind the end on the north part of the lode is worth 12l. per fathom. The lode in the western stop in the back of the 70 is worth 7l. per fathom. A winze is in course of sinking below the 60 (just over the stops referred to); the lode in this winze is worth 10l. per fathom. Three stops in the back of the 60 are worth in the aggregate 25l. per fathom. In the back of the 55 east there are three stops, worth 10l., 10l., and 7l. per fathom respectively. A rise in the back of the 45, west of cross-course, is worth 9l. per fathom. There seems to be a great extent of ground here to speculate on should the price of tin improve. In the Blue Hills part of the mines the 80, on the north lode, is extended through Penhalls Mine, and some 40 fms. into the Blue Hills; the lode in the end has a strong and kindly appearance, and is worth fully 12l. per fathom. A rise or stop in the back of this level is also worth 12l. per fathom. A shaft is in course of sinking to open up the tin ground seen in this level. It is considered the shaft will be communicated with the 30 in about a month from this time; as soon as this is accomplished it will give good ventilation, and greatly facilitate the development of this part of the mine. As already stated the lode in the 30 east is now worth 12l. per fathom, and this 30 fm. level has passed over no less than productive tin ground for some 80 fathoms in length. After the shaft is holed to the 30 the sinking below can be urged on, to open up the tin ground referred to. A 42 fm. level east and west could probably be started in about three months after the shaft is made complete to the 30. Looking at the position of this north lode through both mines and its productive character the new shaft, although in the Blue Hills part of the property, offers equal advantages in driving west at the 42 and levels below into Penhalls Mine as it does in extending the same levels east from the shaft into the Blue Hills set, where there is fully half a mile of virgin ground eastward to operate on. The mines could certainly be worked more advantageously were they united, and which I would strongly recommend, and if this course of action is adopted, and the north lode opened out vigorously in both mines, as well as keep up the explorations in Penhalls proper, I have a strong opinion that the united mines would soon open out a good paying property.—Wm. Rich.

He might observe that no agent was more looked up to in the district than Capt. Rich, and he was sure that they could find none more competent, so that they might place full reliance upon his opinion in this case, which was that if the mines could be worked together they could even with the present price of tin make good profits. The committee also recommended that in future the accounts should be furnished every 12 or 16 weeks, and that they should include all costs and liabilities due at date, and that they had come to the conclusion that if an agent were appointed to take the general supervision of the mines, not to be there constantly, but to visit them perhaps twice a month, to give general directions, it would be of considerable advantage.

Mr. WALTER PIKE agreed with Mr. Daubuz as to the desirability of bringing the accounts close up, but as to the amalgamation he feared it would be attended by so many difficulties that it would have to be abandoned; but he thought a middle course might be adopted in the form of an arrangement between the two concerns that they should work on the give and take principle, so that each should secure the fullest advantage. When it was advantageous to raise Blue Hills mineral through Penhalls it should be done—indeed, a satisfactory arrangement of the kind had already been for some time in operation—and where any corresponding advantage was attainable by Penhalls by utilising Blue Hills it should be secured. There was no doubt that the two mines working together they could secure profits instead of making a loss, and with regard to the prospects of the mines it was gratifying to know that Capt. Rich's estimate was based on the present price of tin. There was one very important point in the mine—the flat lode had been lost in the bottom, but Capt. Rich believes that this lode has been thrown up, and will be found at a shallower depth in driving. If this prove to be the case they would really have a new mine as good as ever, and he would remark that those who had been in the mine from the beginning had really lost nothing, as the dividends paid had more than covered the entire outlay, and they now appeared to have a property which would prove permanently valuable.

A SHAREHOLDER enquired why the accounts were not kept properly charged up monthly as required by the cost book of the company. He recollected that at the December meeting the costs were only charged to August. If the rules had been abided by they would not now have so large a debt to provide for.

Mr. DAUBUZ supposed they all tried when they could to get off without a call. He then moved that the accounts be received and passed, and that for the future all costs and liabilities up to within one month of the date of the meeting shall be charged so that the financial position be made clear to all shareholders. He explained that the intention was to include all liabilities ascertained up to the date of meeting, the accruing costs being alone omitted.—Mr. W. GILL seconded the motion, and it was unanimously agreed to.

Mr. STANLEY enquired whether they could not suspend operations for a time until the price of tin should improve?—Mr. DAUBUZ scarcely thought so; there would be the difficulty that the mine would fill with water, and they would lose their workmen; indeed, by far too many were leaving the county now. The question had been well considered in Cornwall, and they had come to the conclusion, after discussing the subject very carefully, that they had better keep the water, and hope for improvement. Indeed they had seen some slight improvement within the last few weeks in the price of tin, and he trusted it would continue.

Mr. CHARLES CHESTON proposed and it was unanimously resolved that Mr. Chester Cheston, General W. Clarke, and Messrs. R. Davey, Sydney Davey, and J. C. Daubuz be the committee of management.

Mr. CHARLES CHESTON said one of the heaviest creditors—Mr. Hitchens, to whom 1137l. was due for coals—was threatening to wind them up in the Stannaries unless his claim were settled; he had, however, agreed to take acceptances due in April, July, and October for the amount, and the committee felt that before accepting those bills they ought to ask the authority of the shareholders for doing so. The amount would have to be provided for by the call which would presently be made, and which would also be payable by instalments.

A SHAREHOLDER would like before that motion was put to the meeting for the shareholders to consider the desirability to wind up the mine, for it was a question whether it was not better to realise their loss at once than to go on with matters in their present condition.

Mr. DAUBUZ said the greater part of the mine was held at his end of the table, and that as far as he was concerned he had such confidence in Capt. Rich that he had agreed to carry on.

The SHAREHOLDER would move an amendment, then, that a meeting be called to consider the winding-up of the mine.

Mr. WALTER PIKE remarked that whether the mine be wound-up or not they would have to pay the debts already incurred, and that as to winding-up, the Stannaries Act provided that any person could retire by relinquishing his shares, so that anyone wishing to do so could withdraw upon better terms than he would obtain under a wind-up.

Mr. CHARLES CHESTON would add that the effect of passing the amendment would be to secure a wind-up, as Mr. Hitchens would carry out his threat.

The amendment was then put and negatived on the show of hands, and the original motion for authorising the acceptance of the bills carried unanimously, several of those who voted for the amendment now voting for the original motion, one shareholder remarking that if they were to go on it was desirable that their debts should be paid, and that they should not let arrears again arise.

Mr. WALTER PIKE said that they now came to the most painful part of the meeting, for he had to propose a call of 12s. per share, payable by three instalments on March 25, June 25, and Sept. 25, a discount of 5 per cent. being allowed for prompt payment, and 5 per cent. being charged on calls left in arrear. There

was, however, one gratifying feature that the proposition for the call emanated from a gentleman who represents more than half the shares in the mine.

The SECRETARY stated, in reply to a shareholder, that the last call had been very promptly paid, only 48l. arrears remaining.

The call was unanimously agreed to. Mr. CHARLES CHESTON moved, and it was unanimously resolved, that the thanks of the meeting be tendered to the lords for the reduction of the dues to 1-40th, but at the same time they thought it should be reduced to 1-60th, as in the neighbouring mines.

Mr. DAUBUZ said that he had spoken to Mr. Davey on the subject, and that as the reduction to 1-60th was a second thought, he considered it would be best to leave it for the present; he had no doubt the further reduction would be conceded.

The proceedings terminated with the usual complimentary vote to the Chairman and committee.

BLUE HILLS MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Austinfriars, on Tuesday.

Mr. CHESTER CHESTON in the chair.

Mr. JAMES HICKEY (the secretary) read the notice convening the meeting, and the minutes of the preceding one, which were confirmed. The accounts (including an item of 135l. for interest to Hitchens on a coal account), showing a debit balance of 2037l. 19s. 5d., together with the subjoined report of the agents, were submitted:—

Feb. 22.—During the past nine weeks which have elapsed since your last general meeting the 30 east end, on the north lode, has been pushed on as fast as possible by six men, and we are pleased to state through good tin ground, varying in value from 10l. to 12l. per fathom. The ground has been somewhat harder than it was some two or three months since, and, consequently, the progress has not been quite so great, the present rate of drive being somewhat less than 6 ft. per week; the lode, however, is larger, and apparently of a more permanent character, since passing the last small cross-course. The end is now nearly abreast of the Blue Burrow shaft, which is fast approaching this level, and a rise is just commenced in the back of this level close to the end, so as to effect a communication with that shaft as soon as possible. A stop some 10 fms. behind the end is worth 10l. per fathom. We may here state that the profitable tin ground through which this end is now passing has been continuous for 17 fms. long; this fact, in connection with a small perpendicular lode some 20 fms. to the north of the present end, looks very promising in reference to the prospects on this lode in depth, and, moreover, this part of the mine is in maiden ground the whole extent of the set. The Blue Burrow shaft, too, is nearly perpendicular over the top lode in the 80 east end, from the engine-shaft, which some day may be utilised for the development of that portion of the mine. Our opinion of this part of the mine has been so often expressed that we need not on this occasion refer to it. On the whole, the mine is looking most promising, and we feel confident will ultimately repay the shareholders for all their patience and outlay.—S. BENNETTS, P. BENNETTS.

Mr. DAUBUZ, in moving the reception and adoption of the report and accounts, said that Capt. Rich's report read at the meeting (Penhalls) just concluded referred equally to this mine, and for his own part he thought that Blue Hills was better than Penhalls.

A GENTLEMAN (a representative of Mr. Short) objected to the item of Hitchens's interest. He thought that 135l. interest upon a tradesman's bill was an item which no court of law would allow, and he, therefore, begged to move that the accounts be corrected by striking out that item.

Mr. WALTER PIKE said that such interest was frequently charged, and had been in many cases allowed by the Stannaries Court.

Mr. CHARLES CHESTON objected to the amendment, because the holder of shares in a cost-book company can only appoint another shareholder as a proxy for him. He might say, however, as a matter of fact that he had himself enquired as to this item for interest, and regretted to say that there appeared to be no alternative but to pay it.

The report and accounts were then unanimously adopted. Messrs. Chester Cheston, J. C. Daubuz, Walter Pike, A. C. Williams, and General Clarke, were appointed committees of management; and the committee were authorised to accept Hitchens's three bills of 634l. 5s. 8d., each payable April 4, July 4, and Oct. 4.

Mr. J. C. DAUBUZ moved, and it was unanimously agreed to, that in future meetings be regularly held every 16 weeks, and all liabilities ascertained to date of meeting charged up.

Upon the proposition of Mr. STANLEY it was unanimously resolved that a call of 10s. per share be made payable in three instalments of 3s. 4d. each on March 25, June 25, and September 25; 5 per cent. being allowed for prompt payment, and 5 per cent. charged on arrears.

The usual complimentary vote of thanks to the Chairman and committee terminated the proceedings.

[For remainder of Meetings see to-day's Journal.]

Mr. James Waddell has been appointed by Vice-Chancellor Malins official liquidator of the Diamond Fuel Company.

FOREIGN MINING AND METALLURGY.

A contract for tyres required for the Belgian State Railways has been let this week. The lowest tender was that of the Geraing Company, and was 1s. 2d. per ton below the contract price of the last adjudication three months since. A credit of 240,000l. has been accorded to the Belgian Minister of Public Works for the purchase of fixed plant and rolling stock required for the Belgian State Railways.

Contracts for coal are being given out by the Belgian sugar manufacturers. The question appears to be whether coalowners will consent to a fresh reduction of 5d. per ton, or whether the price of last season will be maintained. M. Felix Brabant has been making investigations in regard to the important question of the ventilation of mines.

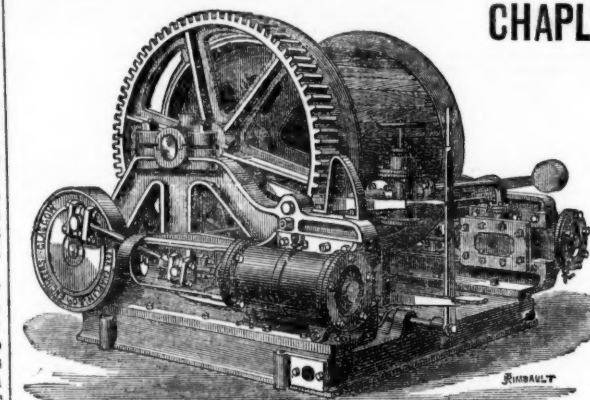
Contracts have just been let at Madrid for material required for the North-Western of Spain Railway. An order was obtained by the Ebbw Vale Coal, Steel, and Iron Company for 3000 tons of rails, delivered free at 5l. 10s. per ton. A contract for 92 trucks was let to a Bordeaux firm at 92l. per truck; the Belgian Railway Plant Company tendered unsuccessfully at 101l. 16s. per truck. A contract for five locomotives was contended for by a German establishment and Messrs. Neilson, of Glasgow. The German firm offered to supply the engines at 107l. 8s. per ton, while Messrs. Neilson asked 109l. 12s. per ton. It is believed Messrs. Neilson will obtain the order, although the contract has not yet been definitively let.

Some lots of coke-made iron could be placed in the French department of the Haute-Marne. Mixed iron and iron of superior quality has been, happily, more favoured. There has been some demand for iron wire. Orders begin to find their way to the foundries of the Haute-Marne for pipes and similar small articles. In the Ardennes the situation is not very favourable, and orders make default. A quotation of 6l. 4s. per ton is spoken of for iron, as if no other quotation had ever been known. In the Loire-et-Rhône large transactions continue to make default, and the iron market remains generally in much the same state. The consumption is so reduced, and prices are so unremunerative, that little by little the production of merchants' iron is being abandoned in the district. The Denain and Anzin Forges Company has declared a dividend of 10s. per share for 1878; no previous dividend had been paid since 1874. The profits realised in 1878—that is, for the year ending Aug. 31, 1878—amounted to 76,000l.; but 63,000l. of this sum was absorbed in redemptions. The Denain works are supplied with African minerals; they also draw supplies from the richest and most important bearing in the Bilbao district. As regards the French coal trade, it may be observed that the slackening of orders has caused some discouragement in the basins of the Nord and the Pas-de-Calais.

The Buda-Pesth Steam Mills (Corn) Company have declared a dividend of 36 per cent. The Joint-stock Leather Manufacturing Company of Munich has declared a dividend of 6 per cent for the past financial year.

Continental advices state that tenders have just been received at Madrid for five locomotives for the North-Western of Spain Railway. Messrs. Neilson, of Glasgow, tendered at 109l. 12s. per ton. No tender was definitely accepted, but it is thought that Messrs. Neilson will secure the contract.

HOLLOWAY'S PILLS—NO MYSTERY.—Whenever the blood is impure or the general health is impaired the human body is predisposed to attacks of any prevailing epidemic. The first indications of faulty action—the first sensations of deranged or diminished power—should be rectified by these purifying pills, which will cleanse all corrupt and reduce all erring functions to order. These pills counteract the subtle poisons in decaying animal or vegetable matter, and remove all tendency to bowel complaints, biliousness, and the host of annoying symptoms arising from foul stomachs. The fruit season is especially prone to produce irritation of the bowels and disorders of the digestive organs, both of which dangerous conditions can be completely removed by Holloway's corrective medicines.



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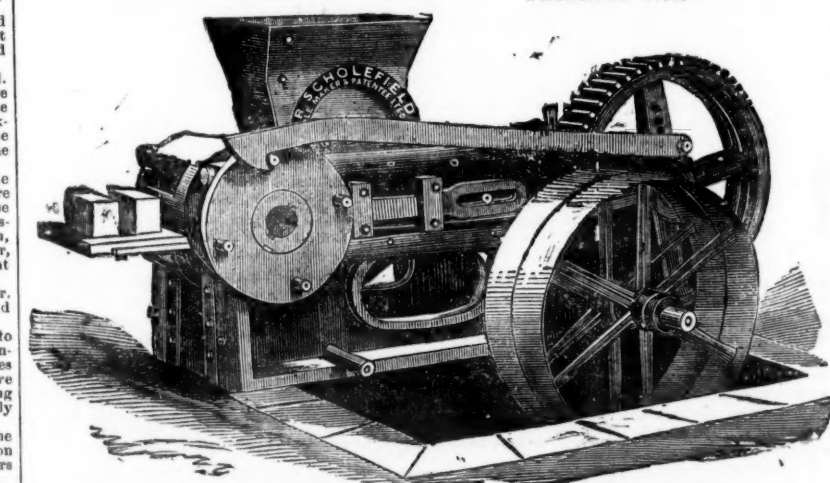
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production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	80	8	0
1 man grinding, 4s. 6d. per day	0	4	6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	0	2	0
1 boy greasing, 1s. 6d. per day	0	1	6
1 engine-man, 5s. per day	0	5	0
1 man wheeling bricks from machine to kiln, 4s. per day	0	4	0

Total cost of making 10,000 pressed bricks £15 0 0, or 2s. 6d. per 1000.

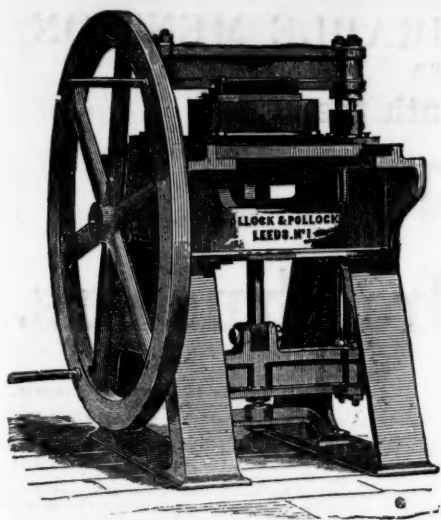
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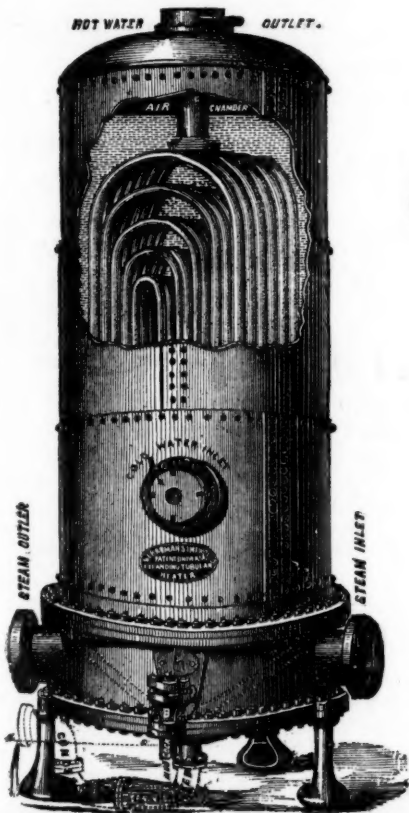
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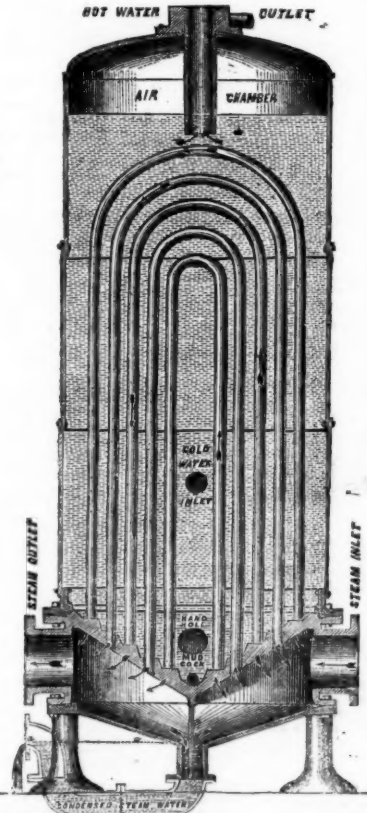
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Having purchased the Engineering Business lately carried on by R. BERRYMAN AND CO., at 23, Congreve-street, Birmingham, and 23, Wilson-street, Finsbury-square, London, have removed the whole to their Works at TIPTON, to which place ALL COMMUNICATIONS SHOULD IN FUTURE BE ADDRESSED, and where the BERRYMAN HEATER can be seen at work, and in every stage of manufacture.

Being the SOLE MAKERS and PATENTEES of these CELEBRATED COAL SAVERS and EXHAUST STEAM UTILISERS, and having remodelled and greatly improved them, adding largely to their HEATING SURFACE and WATER CAPACITY, J. W. and Co. have put down a special plant, which includes an entire new set of improved patterns, enabling them to offer these FEED WATER HEATERS to the public at

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This arrangement of BRASS TUBES of a great length giving an enormous HEATING SURFACE makes this HEATER not only the MOST POWERFUL ever invented, but its FIRST COST PER FOOT OF HEATING SURFACE IS LESS THAN HALF THAT OF ANY OTHER. It will condense the whole of the Exhaust Steam from the Engine if required, and entirely does away with the NOISE and BACK PRESSURE from exhaust pipes.

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The water being heated to BOILING POINT UNDER PRESSURE in the Heater, a saving of from 20 per cent. to 25 per cent. in fuel is effected; the disastrous results of grease in boilers are also avoided, the sewage and other loose matter in the water being deposited in the Heater, the acids are liberated there instead of in the boiler.

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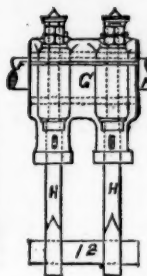
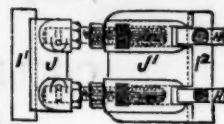
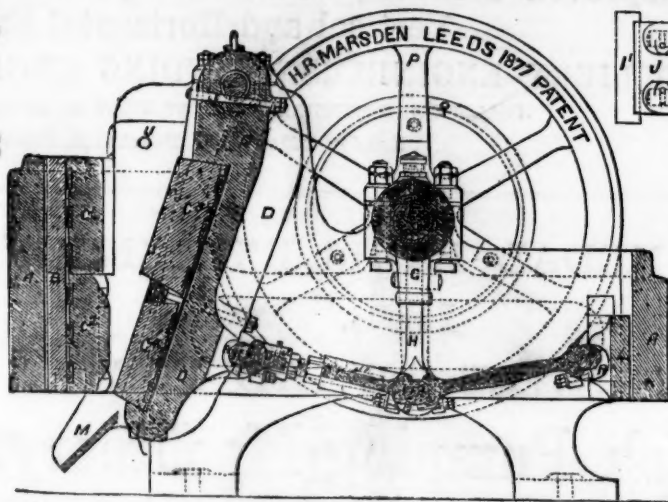
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Wharfedale Lime Works, Maryport, Whitehaven,
November 7, 1878.

H. E. MARSDEN, Esq., Soho Foundry, Meadow-lane, Leeds.
DEAR SIR,—The machine I have in use is one of the large
size, 24 in. by 12 in. The quantity we are breaking daily with
this one machine is 250 tons, the jaw being set to break to a
size of 2 1/2 in. We have, however, frequently broken over
300 tons per day of ten hours, and on several occasions over
360 tons during the same period. The stone we break is the
blue mountain limestone, and is used as a flux in the various
ironworks in this district. We have now had this machine in
daily use for over two years without repairs of any kind, and
have never had occasion to complain of any inconvenience in
using the machine. I hope the one you are now making for
me may do its work equally well. The cost—including EN-
GINE-POWER, COALS, ENGINEMAN, FEEDING, and all EXPENSES
OF EVERY KIND—is just 3d. per ton. Should any of your
friends feel desirous of seeing one of your machines at work,
I shall have much pleasure in showing the one alluded to.

I am, dear Sir, yours very truly,
WILLIAM MILLER.

AND THIS—

Wharfedale Lime Works, Asparria, Cumberland,
July 11th, 1878.

H. E. MARSDEN, Esq., Soho Foundry, Leeds.
DEAR SIR,—We are in receipt of your letter of 4th inst. I
may just state that the stone breaker above named has been
under my personal superintendence since its erection, and I
have no hesitation in saying that it is as good now as it was
five years ago.

I am, dear Sir, yours faithfully,
FRANCIS GOULD.

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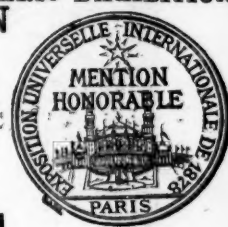
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